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Acutocapillitium, a New Genus in the Lycoperdaceae

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The generic name *Bovistoides*, created by Lloyd (1919), was based on the character of the capillitium thread of a single specimen sent to him from South Africa. Lloyd stated that this was a new type of capillitium, distinguished from that of *Disciseda* Czernaiew by its short, simple thread with acute ends.

After comparing the capillitium of the Lloyd type of *Bovistoides simplex* (Lloyd cat. no. 32447) with that of other specimens of *Disciseda*, I found no real differences, and in my opinion this specimen is a *Disciseda*, as listed by Ainsworth (1971), probably *D. minimum* Dring from Africa.

In 1922, Lloyd established the species *Bovistoides torrendii* for a specimen sent him from Brazil, based on its single capillitium thread with acute ends, although the plant differed from his *Bovistoides simplex* in all other characters, including habitat.

In 1974, I received for identification some Puerto Rican material that included a specimen of Lycoperdaceae (taken from a termite nest) with a single capillitium thread with acute ends. The specimens from Puerto Rico and Brazil are quite similar in characters and habitat, with slight differences only in the peridia and spores, but neither has any of the characters of *Disciseda*. It therefore appears that a new genus is necessary to accommodate these two species.

The generic name *Bovistoides* cannot be used, as it is based on a misidentification and its type species must be put into synonymy with *Disciseda*. The characters of *B. torrendii* do not correspond with those of the genus *Bovistoides* based on *B. simplex*. The specific epithet, however, is retained.

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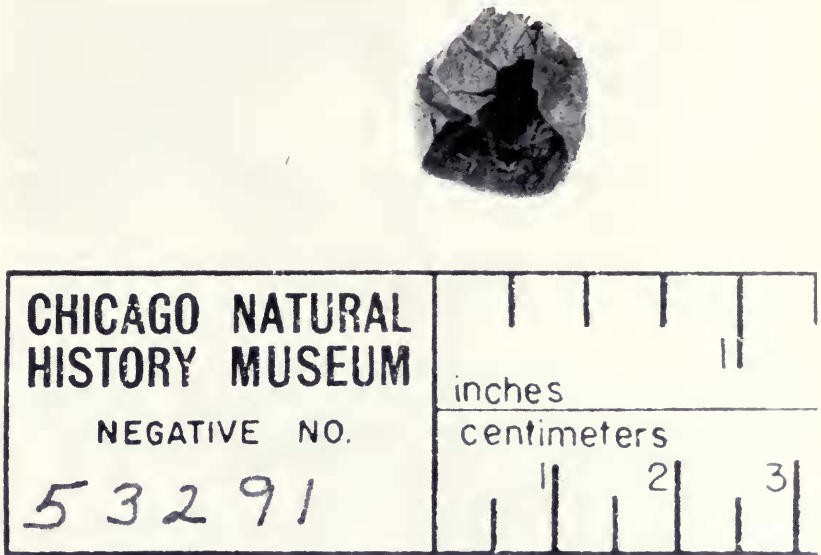


FIG. 1. Type of *Bovistoides simplex* Lloyd.

The new material was also compared with the type specimen of *Bovistina atrogleba* Long & Stouffer (1941), described as having a simple capillitium with acute ends. However, their material also appears to belong in the genus *Disciseda*.

***Acutocapillitium* gen. nov.**

Type species of the genus: *Bovistoides torrendii* Lloyd [= *A. torrendii* (Lloyd) P. Ponce] Myc. Notes 66: 1116 (pl. 197, f. 2108-9). 1922.

Type specimen: *Torrend s.n.*, Brazil (Lloyd cat. no. 32448) (BPI).

Basidiocarp epigeic, globose, sessile, 4-6 cm. in diameter, peridia double; exoperidia velutinous, smooth or with polygonal warts, glabrous or villous, white; endoperidia firm; dehiscence irregular; gleba dark, powdery; subgleba none; capillitium simple, straight, tapering to both ends; spores globose, not pedicellate, smooth or spinose.

Habitat: On stumps or termite nests.

Only two species known in tropical America (Brazil and Puerto Rico).

Fructificationes lignicolae, globosae; peridium duplex; exoperidium velutinum laeve vel polygonato-areolatum, cremeum; endoperidium firmum, irregulariter reptum dehiscens; gleba pulveracea, fusca; subgleba nulla; capillitium simplex, rectum, acuminatum ad ambos apices; sporae globosae, pedicellis nullis, laeves vel spinosae.

Species aut nidis termitum incola, aut lignicola.

Taxonomic position of the genus:

The two peridia and the pulverulent gleba with a well-developed capillitium place this genus in the Lycoperdaceae. By the absence of the subgleba it appears to be related to *Bovista* Persoon. Although the endoperidium is rigid, its microscopic structure is like that of *Lycoperdon* Persoon and *Bovista*, and not that of *Scleroderma* Persoon. The exoperidium has hairs of irregular cells as does that of some Lycoperdons and some Morganellas. The irregular dehiscence of the peridia resembles that of some Bovistas. There is no similarity to the opening of the peridia of the Lycoperdons, the Calvatias, or the Discisedas. The lignaceous habit is found only in *Lycoperdon pyriforme* Persoon, the genus *Morganella* Zeller, and *Bovista acuminata* (Bosc) Kreisel, although *Acutocapillitium* does not appear to be directly related to either of them.

Acutocapillitium torrendii (Lloyd) P. Ponce, comb. nov.
Bovistoides torrendii Lloyd, Myc. Notes. 66: 116 pl. 197, f. 2108-9. 1922.

Type specimen: *Torrend s.n.*, Brazil (Lloyd cat. no. 32448) (BPI).

Basidiocarp globose, sessile, lignicolous, 3-4 cm. in diameter; peridia double, exoperidium smooth, thin, glabrous, white; endoperidium firm, rigid, brown, dehiscence by irregular rupture of the peridia; gleba dark, black in mass, with a purplish tinge, powdery; sterile base none; capillitium of simple, straight, short threads, 150 μ long, brown or dark amber, 12-15 μ in diameter at the thickest part, sharply tapering to both ends; spores globose, 5-6 μ in diameter, dark brown, not pedicellate, smooth or very minutely rugose.

Habitat: On a stump. As Lloyd said, it is an unusual habitat for a puffball as large as this. Only *Lycoperdon pyriforme*, the species of the genus *Morganella*, and *Bovista acuminata* live on wood.

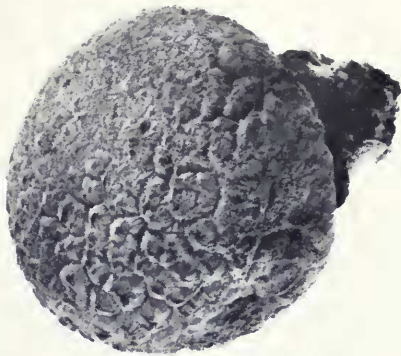
Only one collection, from Brazil.

The designation of this species as type of the genus appears logical because it has a good description, a clear illustration, and the name honors a well-known mycologist and active collector in the tropics of South America.



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NEGATIVE NO. 53290	centimeters	2 3 4 5

FIG. 2. *Acutocapillitium torrendii* (Lloyd) P. Ponce.



CHICAGO NATURAL HISTORY MUSEUM	inches	2
NEGATIVE NO. 53289	centimeters	2 3 4 5

FIG. 3. *Acutocapillitium portorticense* P. Ponce.

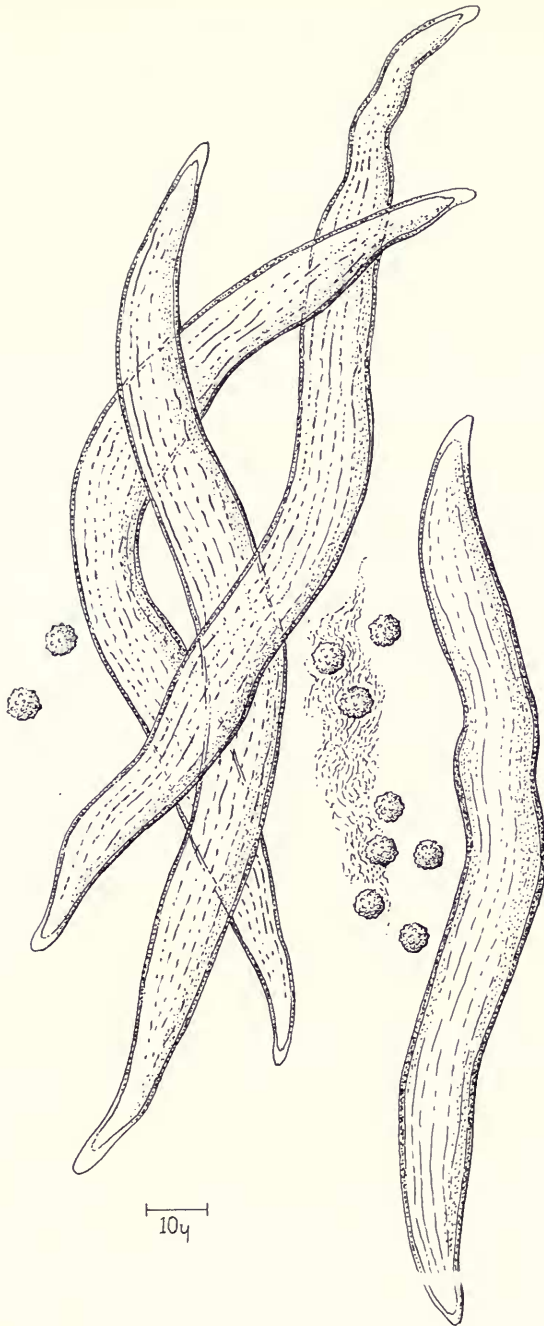


FIG. 4. Capillitium and spores of *Acutocapillitium portoricense* P. Ponce.

***Acutocapillitium portoricense* P. Ponce, sp. nov.**

Fructificationes supra termitum nidum globosae; peridium duplex; exoperidium polygonato-areolatum, album; endoperidium firmum, irregulariter dehiscens, usque ad vicinitatem basis ruptum; gleba pulveracea, fusca, brunnea; subgleba nulla; capillitium simplex, rectum, acuminatum ad ambos apices 12-15 μ diametro, 150 μ longum; sporae globosae, 5-6 μ diametro, brunneae, pedicello nullo, spinosae.

Termitum nidis incola. Puerto Rico. Typus: Univ. Puerto Rico Collection No. 886, Holotype (UPR, F).

Type specimen: Collector unknown, Hato Rey, Loiza Aldea, University of Puerto Rico Tropical Myc. Laboratory, Collection No. 886 (holotype). (UPR, F).

Basidiocarp globose, sessile, 3-4 cm. in diameter; peridia double; exoperidium villous, white, with polygonal warts composed of short, pluricellular hairs converging at the apices into a common tip, their cells irregular and arising from a thin, basal layer of hyphae; endoperidium firm, rigid, about 2 mm. thick, brown, consisting of several layers of sclerotic hyphae, dehiscence by irregular rupture of the peridia, the rupture lines running to near the base; gleba dark brown in mass, powdery; sterile base none; capillitium of simple, short threads 150 μ long, 12-15 μ in diameter in the thickest part, light brown or yellow, sharply tapering to both ends; capillitia forming cordlike filaments several threads thick, these radially disposed from the center of the basidiocarp to the endoperidium; spores globose, 5-6 μ in diameter, light brown, not pedicellate, spinose.

This material was collected on a termite nest; under one of the specimens there still remains a portion of this structure.

Only one collection, consisting of three specimens on the same substratum, from Puerto Rico.

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